

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed January 26, 2005. At the time of the Office Action, Claims 1-39 were pending in this Application. Claims 1-39 were rejected. Claims 5 and 14 have been amended to further define various features of Applicants' invention. Applicants respectfully request reconsideration and favorable action in this case.

Double Patenting Rejection

The Examiner provisionally rejected Claims 1-39 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 51-139 of copending U.S. Patent Application Serial Number 10/177,829 filed by William A. Goldman et al. on June 21, 2002. Also Claims 51-139 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-102 of U.S. Patent 6,109,368 issued to William A. Goldman et al. or Claims 1-50 of U.S. Patent 6,408,953 issued to the same. Applicants enclose a Terminal Disclaimer for each of the above-mentioned Patent Application and Patents along with the appropriate filing fee to overcome these rejections.

Claim Objections

The Examiner has rejected Claims 5 and 14 for containing informalities. Applicants submit that Claims 5 and 14 have been amended to overcome Examiner's concerns. Applicants request reconsideration and favorable action.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 7-11, 15-18, 22-28, and 32-39 were rejected by the Examiner under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 4,794,534 issued to Keith K. Millheim ("Millheim"). Applicants respectfully traverse and submit that the cited art does not teach all of the elements of the claimed embodiment of the invention.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal*

Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1997). Furthermore, "the identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co. Ltd.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Applicant respectfully submits that the Millheim reference cited as anticipatory by the Examiner cannot anticipate the rejected Claims, because Millheim does not show all the elements of the present Claims.

Independent Claim 1 recites a method that includes, among other steps, "generating a geology model of a given formation ... including a geology characteristic of the given formation per unit depth" and "determining a predicted drilling performance for a proposed drilling equipment based on the geology model and specification data of the proposed drilling equipment, wherein the specification data of the proposed drilling equipment is a function of the geology characteristic."

Independent Claim 10 recites, among other limitations, computer instructions for: "generating a geology model of a given formation, the geology model including a geology characteristic of the given formation per unit depth" and "determining a predicted drilling performance for a proposed drilling equipment based on the geology model and specification data of the proposed drilling equipment, wherein the specification data of the proposed drilling equipment is a function of the geology characteristic."

Independent Claim 15 recites a method that includes, among other steps: "modeling a potential well bore based at least one geological characteristic" and "predicting a performance of a first drilling equipment of the drilling system to be used in drilling the potential well bore based on a predicted drilling mechanics data of the first drilling equipment, wherein the predicted drilling mechanics data is a function of the at least one geological characteristic used in modeling the potential well bore."

Independent Claim 25 recites, among other limitations, computer instructions for, "modeling a potential well bore based at least one geological characteristic" and "predicting a performance of a first drilling equipment of the drilling system to be used in drilling the potential well bore based on a predicted drilling mechanics data of the first drilling equipment, wherein the predicted drilling mechanics data is a function of the at least one geological characteristic used in modeling the potential well bore."

Independent Claim 34 recites among other limitations: "a geological model of a proposed well bore, the geological model representative of the proposed well bore based on at least one geological characteristic" and "specification data of a plurality of proposed drilling equipment, the specification data of each proposed drilling equipment including a predicted drilling mechanics data as a function of the at least one geological characteristic used for the geological model."

Applicants submit that Millheim utilizes real-time data to compare with a previously generated drilling plan or well plan. See Col. 4, lines 36-38. In the event that actual drilling is not proceeding as planned, a drilling engineer evaluates the situation and develops possible corrective actions. See Col. 4, lines 51-54. The corrective actions may then be "implemented immediately or tested, first, to find out if such actions will truly solve the problem(s) at hand." Col. 54-56.

Examiner cites to Millheim as anticipating Independent Claims 1, 10, 15, 25 and 34. Applicants traverse Examiner's interpretation of Millheim and submit that Millheim only makes general reference to drilling simulation techniques. Specifically, Millheim states:

At the start, a drilling plan for a well is developed. Such plan includes the particular solids equipment to be used, the type of drill bits to be used, as well as many other drilling equipment and procedural determinations, as is well known in the art. Most commonly, a drilling plan is developed by a drilling engineer however, for the purposes of the present discussion a drilling plan is developed using a programmable digital computer such as the Engineering Simulator-Drilling (ESD) developed by Amoco Production Company. It should be noted that any means of developing a drilling plan can be utilized with the present invention and the development of the drilling plan forms no part of the present invention.

Col. 4, lines 13-26. Accordingly, Millheim only make general reference to the existence of drilling plans and fails to provide disclosure, teaching or suggestion of each and every element of the Independent Claims listed above. For instance, Millheim fails to specifically disclose generating a geology model of a formation "including a geology characteristic of the given formation per unit depth" as recited in Independent Claims 1 and 10. Millheim also fails to specifically disclose "modeling a potential well bore based at least one geological characteristic" and "predicting a performance of a first drilling equipment of

the drilling system to be used in drilling the potential well bore based on a predicted drilling mechanics data” as recited in Claim 15 or 25. Millheim also fails to disclose “predicted drilling mechanics data as a function of the at least one geological characteristic used for [a] geological model” as recited in Claim 34.

Accordingly, Applicants submit that Millheim fails to disclose, teach or suggest the specific drilling simulation recited by Independent Claims 1, 10, 15, 25 and 34. For at least these reasons Applicants request reconsideration, withdrawal of the §102 rejections and full allowance of Claims 1, 10, 15, 23 and 34 and Claims 2, 7-9, 11, 16-18, 22-24, 26-28 and 32-33 and 35-39 which depend therefrom.

Rejections under 35 U.S.C. §103

Claims 3-6, 12-14, 19-21 and 29-31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Millheim. Applicants respectfully traverse and submit the cited art does not render the claimed embodiment of the invention obvious.

In order to establish a prima facie case of obviousness, the references cited by the Examiner must disclose all claimed limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Applicants submit that Claims 3-6, 12-14, 19-21 and 29-31 depend from claims that have been placed in condition for allowance. Additionally, as described above, Millheim fails to disclose, teach or suggest all of the claimed limitations of such claims. Accordingly, Applicants respectfully submit that Millheim cannot render obvious Claims 3-6, 12-14, 19-21 and 29-31. Applicants request reconsideration, withdrawal of the §103 rejections and full allowance of Claims 3-6, 12-14, 19-21 and 29-31.

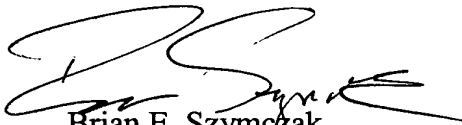
CONCLUSION

Applicants have now made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. Applicants respectfully request reconsideration of the claims as amended.

Applicants believe there are no further fees due at this time, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-2148 of Baker Botts L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicant's attorney at 512.322.2548.

Respectfully submitted,
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Enclosures: Terminal Disclaimer for U.S. Application Serial No. 10/177,829
Terminal Disclaimer for U.S. Patent 6,109,368
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Statement Under 37 C.F.R. 3.73(b)